



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/629,756

07/30/2003

Takayuki Hattori

2927-0152P

6804

2292 7590 09/17/2008
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

SERGEANT, RABON A

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

09/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/629,756	Applicant(s) HATTORI ET AL.	
	Examiner Rabon Sergent	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7,8 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8 and 11-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1796

1. Claims 1, 2, 7, 8, and 11-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' amendment to claim 1 specifying that not less than 1% nor more than 20% of the organometallic salt is single-ionized renders the claim indefinite, in view of the further language within claim 1 that not less than 0.5% of said organometallic salt is single-ionized. It is unclear how to reconcile the "not less than 0.5%" language and the "not less than 1%" language.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 7, 8, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and Knobel et al. ('669) and further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451)

Art Unit: 1796

or Noh et al. (US 2002/0042002 A1) and further in view of Eichorst et al. ('630) or Christian et al. ('287).

The primary references disclose rollers comprising an electrically conductive polyurethane coating, wherein the polyurethane is derived from a polyol free of unsaturation and contains a conductivity or charge control agent, such as an organometallic salt. The references further disclose the use of such rollers in electrophotographic equipment. See abstract; column 7, line 49; and column 10, lines 14-25 within Vreeland et al. ('001). See abstract; column 9, line 51; and column 12, lines 6-17 within Vreeland et al. ('457). See abstract and paragraphs [0054] and [0077] within Gloyer et al. Vreeland et al. ('001) (at column 10, lines 14-24) and Vreeland et al. ('457) (at column 12, lines 6-17) recite stoichiometric ratios for the reactants that satisfy those claimed. Furthermore, Gloyer et al. specifically recite equivalent ratios that meet applicants' claimed index value. See paragraphs [0010], [0015], and [0020] within Gloyer et al.

4. While the primary references disclose that the polyol reactant is free of unsaturation, the references fail to specifically recite applicants' claimed polyether polyol having the claimed degree of unsaturation. However, applicants' claimed low unsaturated polyether polyol was a known component for polyurethane elastomers having physical properties especially adapted for use in the manufacture of rollers. This position is supported by the teachings of Barksby et al. See abstract; column 6, lines 6-14; and column 7, lines 44+ within Barksby et al. Additionally, while the primary references are silent regarding applicants' specifically claimed fluoroalkyl sulfonic acid salt and imide salt, these salts were specifically known at the time of invention to be useful for promoting electrical conductivity in polyurethanes. Knobel discloses applicants' claimed fluoroalkyl sulfonic acid salt at column 7, line 26 through column 8, line 65. Wen et al.,

Art Unit: 1796

Sandlin et al., and Noh et al. disclose applicants' claimed imide salt. See abstract; column 3, line 22; and column 4, line 63 within Wen et al. ('897). See abstract and column 2, line 33 within Wen et al. ('639). See abstract and Examples within Sandlin et al. See abstract and paragraph [0049] within Noh et al. (It is noted that Noh et al. improperly indicates that the imide compound is an amide; however, the correct identity of the compound would be immediately evident to the skilled artisan in view of the use of the art recognized abbreviation, LiTFSI.). Lastly, while the primary references fail to disclose applicants' claimed hydrotalcite or zeolite component, the position is taken that the incorporation of these materials into electrically conductive polyurethanes was known at the time of invention. This position is supported by the teachings of Eichorst et al. and Christian et al.; these references each disclose the incorporation of such materials into electrically conductive polyurethane. See column 10, lines 25+ within Eichorst et al. See column 8, lines 5+ within Christian et al. Since these materials were known additives for electrically conductive polyurethanes, the position is taken that when incorporated within such materials, they would have reasonably been expected to function equivalently as ion absorbents to single ionize the salts present within the respective compositions.

5. Therefore, since applicants' claimed low unsaturation polyether polyol was known to be useful for producing rollers having improved properties and since applicants' claimed salts were known conductivity agents for polyurethanes and since additives, such as zeolites, were known additives for electrically conductive polyurethanes, the position is taken that it would have been obvious to incorporate these components within the electrically conductive polyurethanes of the primary references, so as to obtain a composition and roller having the improved properties disclosed by the secondary references. This position is bolstered by the fact that it has been held

Art Unit: 1796

that it is *prima facie* obvious to utilize a known compound for its known function. *In re Linder*, 173 USPQ 356. *In re Dial et al.*, 140 USPQ 244.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and Nobel et al. ('669) and further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451) or Noh et al. (US 2002/0042002 A1) and further in view of Eichorst et al. ('630) or Christian et al. ('287). as applied to claims 1, 2, 7, 8, and 12-17 above, and further in view of Nogami et al. ('646) or Priebe et al. ('188).

As aforementioned, the teachings of Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451) or Noh et al. (US 2002/0042002 A1) and further in view of Eichorst et al. ('630) or Christian et al. ('287) are considered to render applicants' composition and roller *prima facie* obvious; however, these references are silent regarding applicants' plasma treatment of the metal shaft. Still, the treatment of metal with plasma to improve its adhesion to other layers, including polymers, was known at the time of invention. See column 10, lines 4-10 within Nogami et al. See abstract and column 2, lines 20+ within Priebe et al. Therefore, the position is taken that it would have been *prima facie* obvious to plasma treat the metal shaft of the roller prior to application of the elastomer, so as to improve the adhesion of the elastomer to the metal surface and the durability of the resulting roller.

7. Applicants' amendment and arguments of June 4, 2008 have been considered; however, the response is insufficient to overcome the prior art rejections. The position is taken that applicants' arguments fail to appreciate the combined teachings of the references. Applicants'

Art Unit: 1796

arguments further fail to appreciate that each of the secondary references is drawn to the production of rollers or electrically conductive polyurethanes; accordingly, the primary and secondary references constitute analogous art. Furthermore, applicants' argued examples have been considered for showings adequate to rebut the *prima facie* case of obviousness; however, the argued examples are deficient for the following reasons. Firstly, applicants' examples of the invention are not commensurate in scope with the claims in terms of species of components or quantities of components. For example, the polyol and isocyanate species of the examples are of a far more narrow scope than those claimed. It has been held that the claims must be commensurate in scope with any showing of unexpected results. *In re Greenfield*, 197 USPQ 227. It has further been held that a limited showing of criticality is insufficient to support a broadly claimed range. *In re Lemin*, 161 USPQ 288. Furthermore, the examiner has reviewed the examples for showings of unexpected results pertaining to the issue of single ionization; however, only one example (Example E4) sets forth a degree of single ionization; however, as aforementioned, none of the comparative examples are adequately comparable, because none of the comparative examples vary only the salt or its degree of single ionization while holding other variables constant, relative to Example E4. Furthermore, it is unclear in view of the data presented that any unexpected results are present relative to the other examples of the invention. Additionally, Example E4 is deficient, because it is not commensurate in scope with the claims. Even the characteristics of the exemplified salt are far more limited than provided for by the claims. Along similar lines, it is noted that while the claimed composition requires the presence of the hydrotalcites or zeolites, the specification discloses at page 28, lines 9-11 that the adsorbent was removed from conductive agent 2 (the agent used within Example E4);

Art Unit: 1796

accordingly, it appears that this example is not representative of the claimed invention, because the ion absorbent is not present within the polyurethane composition. Secondly, it is by no means clear that the comparative examples are representative of the closest available art (i.e.; the relied upon art). For example, the primary references specify that polyols free of unsaturation are utilized; therefore, it is unclear that applicants' comparative examples 1-3 are representative of these teachings. Furthermore, due to their composition, comparative examples 4-6 are not representative of the teachings of the primary references. Therefore, the examples are inadequate to rebut the *prima facie* case of obviousness.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

/Rabon Sergent/
Primary Examiner, Art Unit 1796